

REMARKS

Reexamination and further and favorable reconsideration of the subject application in light of the following remarks, pursuant to and consistent with 37 C.F.R. § 1.111, are respectfully requested.

Status

As is correctly reflected in the Office Action Summary mailed September 1, 2010, Claims 1-4 and 10 are pending. *Office Action mailed September 1, 2010, Office Action Summary, Item 4.* Claims 1-4 and 10 stand rejected. *Id. at Item 6.*

Rejections Under 35 U.S.C. § 103- Matsunaga and Felton

The Office Action indicates that claims 1-4, 7, 10, 13 and 16 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 5,391,665 to Matsunaga *et al.* ("Matsunaga") in view of U.S. Patent No. 3,595,523 to Felton ("Felton") or vice versa. *Office Action mailed September 1, 2010, Pages 4-11.* It is noted that claims 1-4 and 10 are pending in the application. The rejections applied to previously canceled claims are moot. The rejections applied to the pending claims are respectfully traversed.

In making the rejection, the Examiner considers that Felton teaches a plastic case body of a valve drive section. Felton only teaches a plastic body for a butterfly valve. Felton contains no suggestion whatsoever to construct his butterfly valve body out of an epoxy acrylate resin as recited in the present claims. Felton suggests only "a suitable plastic material such as Polyvinyl Chloride." Felton at col. 2, ll. 6-8. Felton does not teach or suggest what properties may be required for "a suitable

plastic.” Felton does not teach or suggest the properties of the resin recited in the present claims.

Matsunaga merely discloses a resin composition comprising a resin having hydroxyl groups at both ends (hydroxyl group value from 20 to 200). See, col. 13, lines 10-13. Epoxy acrylate resin is merely mentioned as one possibility out of an enormous number of resins. Indeed, Matsunaga teaches an enormous number of plastics, and extrapolates these into a near infinite variety of permutations.

Matsunaga does not disclose the particular combination of a molding material having a tensile strength of 80 to 400 MPa at normal temperature, wherein the molding material comprises a resin composition containing an epoxy acrylate resin (A) having a hydroxyl value of 60 to 100, a polyisocyanate compound (B) having 0.1 to 1.5 isocyanate groups per one hydroxyl group of the epoxy acrylate resin (A), a curing agent (C), an internal mold release agent (D), and 20 to 70% by mass of a fiber reinforcing material (E) as recited in claim 1. Claims 2-4 and 10 recite additional features that are not suggested by Felton or Matsunaga. Nothing in Matsunaga would have rendered such a selection of properties and components obvious from out of the vast number of combinations described in Matsunaga.

Thus, the gap between Felton and the claimed invention is huge. To get from Felton to the present invention, one would have had to extrapolate from a butterfly valve body to a case body of a valve drive section. One would have needed a reason to modify the butterfly valve of Felton from using polyvinyl chloride to choose an epoxy acrylate resin out of the whole universe of nearly infinite varieties of plastics. One would have needed a reason to look to Matsunaga, which is concerned with coatings, paint, ink, fabric, foam, and flooring and does not even

mention a valve. One would have needed a reason to select the particular components of the invention out of the vast number of compositions suggested by Matsunaga without guidance for a purpose never apparently envisioned by Matsunaga.

The Examiner contends that Matsunaga discloses epoxy acrylate resins. However, Matsunaga provides no guidance toward selecting components out of the vast array of permutations disclosed in the reference to arrive at the resin recited in the claims. The conclusions alleged in making the rejection do not identify any reason in Felton or Matsunaga or the art in general for a person of ordinary skill to choose an epoxy acrylate resin, to look to Matsunaga for guidance in how to make a valve case body, or to modify the butterfly valve of Felton to use any particular plastic other than polyvinyl chloride.

Even if one had a reason to choose epoxy acrylate resin out of the whole universe of plastics, one would need a reason to choose the particular combination of elements of the epoxy acrylate resin recited in the claims. Felton is of no use in this regard. Matsunaga discloses a near infinite number of component permutations and variations, but provides no guidance leading even in the direction of the combination recited in the claims. The Examiner has not identified any teaching in Felton or Matsunaga or the art in general that would lead one to choose the recited combination.

The Office Action does not properly support a prima facie case of obvious, because the Office Action has not provided a reasoned explanation of how one bridges the enormous gap between Felton and the claimed invention. The training materials of the Office have recently reiterated that

The key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. The Supreme Court in KSR noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit. The Court quoting *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006), stated that “[R]ejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” MPEP § 2141 III. Office personnel should continue to provide a reasoned explanation for every obviousness rejection.

75 F.R. 53643, 53649 (September 1, 2010). The Office merely alleges that Felton discloses a plastic valve body and Matsunaga discloses an epoxy acrylate resin and then makes the conclusory statement that it would be *per se* obvious to modify the recited resin compositions in Matsunaga and combine that with Felton “in order to provide any desired characteristics.”

Questions that remain unanswered by the Office Action include: What reason would there be to modify Felton at all except for reference to the disclosure of the present invention? What reason would there be to select the recited composition out of the whole universe of plastics without reference to the disclosure of the present invention? How would one know the desired characteristics without reference to the disclosure of the present invention? How would one know the results that could be achieved with the invention recited in the claims without reference to the disclosure of the present invention?

The Office Action fails to provide some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. The reasoning cannot be found in the references. Felton doesn't provide any guidance leading toward the present invention. Matsunaga is primarily concerned with making paint (Example 36), adhesive (Example 37-38), sealant (Example 40-41), gel court coating

(45-49), elastic (Example 50-52), films (Example 53-54, 59), printing ink (Example 57), flooring (Example 60). Matsunaga discloses:

A polymer having hydroxyl groups at both terminals obtained from this production process, because of the presence of hydroxyl groups at both terminals, it is in itself used as raw materials for various kinds of resins such as a polyester resin, polyurethane resin, polycarbonate resin and the like, and for various kinds of block polymers, coating, elastic wall material, waterproof for paint film, floor material, a pressure-sensitive adhesive (a tackiness agent), tackifier, an adhesive, a binder, sealing compound, urethane foam (hard, semihard, and soft type), urethane RIM, UV. EB curing resin, high solid coating, a thermosetting type elastomer, thermoplastic elastomer, -microcellular, artificial leather, synthetic leather, elastic fiber, a fiber-processing agent, plasticizer, sound absorption material, vibration-controlling material, a surfactant, gel court agent, resin for artificial marble, an impact-resistant agent for artificial marble, a resin for ink, film (a laminate adhesive and protective film, etc.), a resin for laminated glass, reactive diluent and so forth, and also, useful as various kinds of resin additives and these raw materials.

Matsunaga teaches the use of the plastics disclosed therein for paint, adhesive, coatings, fabrics, foams, sealants, and the like. Matsunaga proposes a lot of uses, none of which are as a case body of a valve or the like. Matsunaga proposes that the problem to be solved by the compositions is weather resistance, adhesive strength, coating toughness, etc. Matsunaga does not suggest a lightweight plastic suitable for a valve case body operable at high temperature and pressure with good chemical resistance or how to achieve such a plastic. Matsunaga discloses a lot of different compositions, and extrapolates a near infinite number of variations, but Matsunaga does not point one towards the present invention.

Furthermore, neither Felton, Matsunaga, nor any prior art of record suggests the results demonstrated by the present invention. An analysis of obviousness of a claimed combination must include consideration of the results achieved by that combination. *The Gillette Co. v. S.C. Johnson & Son Inc.*, 16 USPQ2d 1923, 1928

(Fed. Cir. 1990). Critical to the analysis is an understanding of the particular results achieved by the new combination. *Id.* (citing *Interconnect Planning Corporation v. Feil*, 227 U.S.P.Q. 543, 551 (Fed. Cir 1985)).

By adopting the combination of elements and properties recited in the claims, the invention can perform the particular effects described in the specification. The invention provides a lightweight resin member for a valve that has a high strength, can be used in an atmosphere at high temperature, and possesses excellent chemical resistance. Results not achieved by the prior art. See, the Specification at page 4, lines 24-29, page 11, line 33 to page 12, last line, examples 1 to 6 and comparative Example 1, and Tables 1 to 4.

Felton only disclosed use of polyvinyl chloride plastic. As disclosed in the present specification at pages 3-4, this material is subject to become remarkably deteriorated at high temperature resulting in destruction of casing due to stresses at the opening and closing of a valve. Neither Felton or Matsunaga suggest any solution to this problem, let alone the solution provided by the present invention.

For at least the forgoing reasons, the cited art and the allegations of the rejection cannot support a prima facie case of obviousness. Accordingly withdrawal of the rejection is appropriate and is respectfully requested.

CONCLUSION

In the event that there are any questions relating to this Response Pursuant To 37 C.F.R. § 1.111, or to the application in general, it would be appreciated if the Examiner would contact the undersigned attorney by telephone at (703) 836-6620 so that prosecution of the application may be expedited.

The Patent Office is hereby authorized to charge any necessary fees, or credit any overpayment, to Deposit Account No. 02-4800.

Respectfully submitted,
BUCHANAN INGERSOLL & ROONEY PC

Date: December 1, 2010

By: /Christopher L. North/
Christopher L. North
Registration No. 50,433

Customer No. 21839

BUCHANAN INGERSOLL & ROONEY PC
1737 King Street, Suite 500
Alexandria, Virginia 22314
(703) 836-6620